#24 Seq Listing

SEQUENCE LISTING

<110> Jongsma, Maarten Anthonie
Strukelj, Borut
Lenarcic, Brigita
Gruden, Kristina
Turk, Vito
Bosch, Hendrik J.
Stiekema, Willem Johannes

<120> A Method for Plant Protection Against Insects or Nematodes

<130> 250308-1020

<140> 09/445,480
<141> 2000-07-07

<150> PCT/NL98/00352
<151> 1998-06-18

<160> 17

<170> PatentIn version 3.2

<210> 1
<211> 888
<212> DNA
<213> Actinia equina

<300>
<301> Gruden, Kristina; Strukelj, Borut; Popovic, Tatjana; Lenarcic,
Brigita; Bevec, Tadeja; Brzin, Joze; Kregar, Igor;
Herzog-Velikonja, Jana; Stiekema, Willem J; Bosch, Dirk
<302> The Cysteine Protease Activity of Colorado Potato Beetle
(Leptinotarsa decemlineata) Guts, Which is Insensitive to Potato
Protease Inhibitors, is Inhibited by Thyroglobulin Type-1
<303> Insect Biochem. Mol. Biol
<304> 28
<306> 549-560
<307> 1998

<400> 1
ctatggctct tagccaaaac caagccaagt tttccaaagg attcgtcgtg atgatttggg
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120

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180

gagagttcga agaaaaacaa tgctggggat cgactggtta ctgttggtgt gtggatgaag
240

atggaaaaga gattctagga accaagatcc gtggatctcc ggattgcagc cgcagaaaag
300

ccgcgttaac actttgccag atgatgcaag ccatcattgt taatgtccct ggttggtgtg
360

gccctccatc gtgtaaagct gacggcagtt ttgacgaggt tcagtgctgc gcaagtaatg
420

gagaatgcta ctgtgtggat aagaaaggaa aagaacttga aggcacaaga caacagggaa
480

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600

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caggttccga tgtcagattt aaacgcccca catgctaaga aaaacacagt gaacaaagtg
720

gctagtttcc agatcgaaaa taactacaaa ggattaataa aatgttaaaa taatttctca
780

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840

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888

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Met Ile Trp Val Leu Phe Ile Ala Cys Ala Ile Thr Ser Thr Glu Ala
20 25 30

Ser Leu Thr Lys Cys Gln Gln Leu Gln Ala Ser Ala Asn Ser Gly Leu
35 40 45

Ile Gly Thr Tyr Val Pro Gln Cys Lys Glu Thr Gly Glu Phe Glu Glu
50 55 60

Lys Gln Cys Trp Gly Ser Thr Gly Tyr Cys Trp Cys Val Asp Glu Asp
65 70 75 80

Gly Lys Glu Ile Leu Gly Thr Lys Ile Arg Gly Ser Pro Asp Cys Ser
85 90 95

Arg Arg Lys Ala Ala Leu Thr Leu Cys Gln Met Met Gln Ala Ile Ile
100 105 110

Val Asn Val Pro Gly Trp Cys Gly Pro Pro Ser Cys Lys Ala Asp Gly
115 120 125

Ser Phe Asp Glu Val Gln Cys Cys Ala Ser Asn Gly Glu Cys Tyr Cys
130 135 140

Val Asp Lys Lys Gly Lys Glu Leu Glu Gly Thr Arg Gln Gln Gly Arg
145 150 155 160

Pro Thr Cys Glu Arg His Leu Ser Glu Cys Glu Glu Ala Arg Ile Lys
165 170 175

Ala His Ser Asn Ser Leu Arg Val Glu Met Phe Val Pro Glu Cys Leu
180 185 190

Glu Asp Gly Ser Tyr Asn Pro Val Gln Cys Trp Pro Ser Thr Gly Tyr
195 200 205

Cys Trp Cys Val Asp Glu Gly Gly Val Lys Val Pro Gly Ser Asp Val
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Arg Phe Lys Arg Pro Thr Cys
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120

caggcctcgg ctaacagtgg tctgataggt acttatgtac cacaatgcaa agaaactgga
180

gagtttgaag aaaagcaatg ctggggatcg actggttact gttggtgtgt ggatgaagat
240

ggaaaagaga ttctaggtac aaagatccgt ggatctccag actgcagtcg cagaaaagct
300

gccttaacac tttgccagat gatgcaagcc atcattgtga atgtccctgg ttggtgtgga
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cctccatcat gtaaagctga cggcagtttt gacgaggttc agtgctgcgc aagtaatgga
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gaatgctact gtgtggataa gaaaggaaaa gaacttgaag gcacaagaca acagggaagg
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600

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Met Ile Trp Val Leu Phe Ile Ala Cys Ala Ile Thr Ser Thr Gln Ala
20 25 30

Ser Leu Thr Lys Cys Gln Gln Leu Gln Ala Ser Ala Asn Ser Gly Leu
35 40 45

Ile Gly Thr Tyr Val Pro Gln Cys Lys Glu Thr Gly Glu Phe Glu Glu
50 55 60

Lys Gln Cys Trp Gly Ser Thr Gly Tyr Cys Trp Cys Val Asp Glu Asp
65 70 75 80

Gly Lys Glu Ile Leu Gly Thr Lys Ile Arg Gly Ser Pro Asp Cys Ser
85 90 95

Arg Arg Lys Ala Ala Leu Thr Leu Cys Gln Met Met Gln Ala Ile Ile
100 105 110

Val Asn Val Pro Gly Trp Cys Gly Pro Pro Ser Cys Lys Ala Asp Gly
115 120 125

Ser Phe Asp Glu Val Gln Cys Cys Ala Ser Asn Gly Glu Cys Tyr Cys
130 135 140

Val Asp Lys Lys Gly Lys Glu Leu Glu Gly Thr Arg Gln Gln Gly Arg
145 150 155 160

Pro Thr Cys Glu Arg His Leu Ser Glu Cys Glu Glu Ala Arg Ile Lys
165 170 175

Ala His Ser Asn Ser Leu Arg Val Glu Met Phe Val Pro Glu Cys Leu
180 185 190

Glu Asp Gly Ser Tyr Asn Pro Val Gln Cys Trp Pro Ser Thr Gly Tyr
195 200 205

Cys Trp Cys Val Asp Glu Gly Gly Val Lys Val Pro Gly Ser Asp Val
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Arg Phe Lys Arg Pro Thr Cys
225 230

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<222> (13)..(13)
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<222> (16)..(16)
<223> n = T, C

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<222> (19)..(19)
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<223> X = any amino acid

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Xaa Xaa Xaa Gly Xaa Xaa Xaa Xaa Xaa Gln Cys Xaa Xaa Xaa Xaa Xaa
20 25 30

Xaa Cys Thr Cys Val Xaa Xaa Xaa Gly Xaa Xaa Xaa Xaa Xaa Xaa Cys
35 40 45

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<212> PRT
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<220>
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<222> (5)..(5)
<223> X = nitrophenylalanine

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Pro Thr Glu Phe Xaa Arg Leu
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<212> DNA
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<220>
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<400> 10
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30

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<212> DNA
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<220>
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<400> 11
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<210> 12
<211> 47
<212> DNA
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<220>
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<210> 13
<211> 30
<212> DNA
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<211> 27
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<210> 15
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<220>
<223> conserved sequence

<400> 17

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